

U.S. Patent Application Serial No. **10/826,501**

Amendment filed May 22, 2008

Reply to OA dated February 22, 2008

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1           Claim 1 (Currently Amended): An electronic device having an optical system for capturing  
2           an image comprising:

3                 a focusing mechanism for moving said optical system to an auto-focusing position or a fixed  
4           focus position;

5                 a switch that functions as a focusing switch and also functions as a shutter switch, wherein  
6           said switch when operated orders a focusing action or orders capturing of the image; and

7                 a controller that decides whether the optical system is in a final lens position or not during  
8           a focusing action of said focusing mechanism due to said switch, and in the case where a shutter  
9           operation of said switch is performed under a state that the optical system is not in the final lens  
10           position during a focusing action of said focusing mechanism due to said switch, shifts said optical  
11           system to a fixed focus position from an auto-focusing position and takes a fixed focus image.

1           Claim 2 (Previously Presented): The electronic device of claim 1, wherein said controller  
2           compares between a time required for bringing into focus in said focusing mechanism and a time

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3 from starting of the focusing action until starting of said shutter operation, and changes said optical  
4 system to said auto-focusing position or said fixed focus position based on a result of the  
5 comparison.

1 Claim 3 (Original): The electronic device of claim 1, wherein said switch is provided as  
2 a first switch, and a switch which is used in photographing by a fixed focus is also provided as a  
3 second switch separated from the first switch.

1 Claim 4 (Original): The electronic device of claim 1, wherein said switch functions as said  
2 focusing switch at a state of a half-push and functions as said shutter switch at a state of a full-push.

1 Claim 5 (Original): The electronic device of claim 1 further comprising:  
2 a first housing part that has said imaging part;  
3 a second housing part that has said switch; and  
4 a coupling part that couples said first housing part and said second housing part so that the  
5 first and second housing parts can be folded up.

1 Claim 6 (Currently Amended): An electronic device having an optical system for capturing  
2 an image comprising:  
3 a focusing mechanism for moving said optical system to an auto-focusing position or a fixed

4 focus position;

5 a switch that functions as a focusing switch and also functions as a shutter switch, wherein  
6 said switch according to a condition of operation orders a focusing action or the capturing of the  
7 image; and

8 a controller that decides whether the optical system is in a final lens position or not during  
9 a focusing action of said focusing mechanism due to said switch, and in the case where a shutter  
10 operation of said switch is performed under a state that the optical system is not in the final lens  
11 position ~~during a focusing action of said focusing mechanism due to said switch~~ takes an image at  
12 a focus position in the middle of the focusing action.

1 Claim 7 (Original): The electronic device of claim 6, wherein said switch is provided as  
2 a first switch, and a switch which is used in photographing by a fixed focus is also provided as a  
3 second switch separated from the first switch.

1 Claim 8 (Original): The electronic device of claim 6, wherein said switch functions as said  
2 focusing switch at a state of a half-push and functions as said shutter switch at a state of a full-push.

1 Claim 9 (Original): The electronic device of claim 6 further comprising:

2 a first housing part that has said imaging part;

3 a second housing part that has said switch; and

a coupling part that couples said first housing part and said second housing part so that the first and second housing parts can be folded up.

Claim 10 (Currently Amended): A photographing control method of an electronic device having an imaging part which catches an image obtained through an optical system, and a focusing mechanism which moves said optical system to an auto-focusing position or a fixed focus position, comprising:

a process that detects a shutter operation in the middle of a focusing action of said focusing mechanism;

a process that decides whether the optical system is in a final lens position or not during a focusing action of the focusing mechanism;

a process that detects said shutter operation and, if the optical system is not in the final lens position, switches to said fixed focus position from said auto-focusing position of said optical system under the focusing action; and

a process that takes a fixed focus image caught at said fixed focus.

Claim 11 (Original): The photographing control method of the electronic device of claim 10 further including a process that superimposes a focusing mark representative of a distance between a pictured object and the optical system on an image, in the middle of said focusing action, which is caught by said imaging part, and displays it.

1           Claim 12 (Currently Amended): A photographing control method of an electronic device  
2           having an imaging part which catches an image obtained through an optical system, and a focusing  
3           mechanism which moves said optical system to an auto-focusing position or a fixed focus position,  
4           comprising:

5                 a process that detects a shutter operation in the middle of a focusing action of said focusing  
6           mechanism;

7                 a process that decides whether the optical system is in a final lens position or not during a  
8           focusing action of the focusing mechanism; and

9                 a process that detects said shutter operation and, if the optical system is not in the final lens  
10          position, takes an auto-focusing image caught by said imaging part in the middle of the focusing  
11          action.

1           Claim 13 (Currently Amended): A computer readable recording medium storing a  
2           photographing control program of an electronic device having an imaging part which catches an  
3           image obtained through an optical system, and a focusing mechanism which moves said optical  
4           system to an auto-focusing position or a fixed focus position, the control program comprising:

5                 a step that detects a shutter operation in the middle of a focusing action of said focusing  
6           mechanism;

7                 a step that decides whether the optical system is in a final lens position or not during a

focusing action of the focusing mechanism;

a step that detects said shutter operation and, if the optical system is not in the final lens position, switches to said fixed focus position from said auto-focusing position of said optical system under the focusing action; and

a step that takes a fixed focus image caught at said fixed focus.

Claim 14 (Currently Amended): A computer readable recording medium storing a photographing control program of an electronic device having an imaging part which catches an image obtained through an optical system, and a focusing mechanism which moves said optical system to an auto-focusing position or a fixed focus position, the control program comprising:

a step that detects a shutter operation in the middle of a focusing action of said focusing mechanism;

a step that decides whether the optical system is in a final lens position or not during a focusing action of the focusing mechanism; and

a step that detects said shutter operation and, if the optical system is not in the final lens position, takes an auto-focusing image caught by said imaging part in the middle of the focusing action.

Claim 15 (Currently Amended): An integrated circuit to which an imaging part catching an image obtained through an optical system and a focusing mechanism moving said optical system

to an auto-focusing position or a fixed focus position are connected externally, comprising:

a detection part that detects a shutter operation in the middle of a focusing action of said focusing mechanism; and

a control part that decides whether the optical system is in a final lens position or not and, on the basis of a detection of said detection part, switches to said fixed focus position from said auto-focusing position of said optical system under the focusing action and takes a fixed focus image caught at said fixed focus if the optical system is not in the final lens position.

Claim 16 (Currently Amended): An integrated circuit to which an imaging part catching an image obtained through an optical system and a focusing mechanism moving said optical system to an auto-focusing position or a fixed focus position are connected externally, comprising:

a detection part that detects a shutter operation under a focusing action of said focusing mechanism; and

a control part that decides whether the optical system is in a final lens position or not and takes an auto-focusing image in the middle of the focusing action based on a detection of said shutter operation of said detection part if the optical system is not in the final lens position.

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